

I claim:

1. A communication device having a power measurement circuit for determining the power of a first received spread-spectrum signal having a predetermined bandwidth, said communication device comprising:

a first receiver circuit for measuring total received signal power in said predetermined bandwidth;

a second receiver circuit, coupled to said first receiver circuit, for measuring a ratio of signal energy of said first received spread-spectrum signal to a total received power spectral density in said predetermined bandwidth; and

a processor, coupled to said first receiver circuit and said second receiver circuit, for calculating power of said first received spread-spectrum signal in response to said measured total received signal power and said measured ratio of signal power.

2. The communication device of claim 1 wherein said first received spread spectrum signal is a pilot signal transmitted by a code division multiple access (CDMA) base station.

3. The communication device of claim 2 wherein said first receiver circuit comprises a power measurement circuit for generating a total received power signal in response to said measured total received signal power, said second receiver circuit comprises at least one demodulation element for despreads said pilot signal and for generating a CDMA energy ratio signal in response to said measured ratio of signal energy, and said processor generates a CDMA pilot power signal in response to said total received power signal and said CDMA energy ratio signal.

4. The communication device of claim 3 further comprising a display coupled to said processor for generating a quality indication in response to said CDMA pilot power signal.

5. The communication device of claim 1 further comprising a decoder, coupled to said second receiver circuit and said processor, for extracting a transmitted power level signal from a second received spread spectrum signal.

6. The communication device of claim 5 wherein said first received spread spectrum signal is a pilot signal transmitted by a code division multiple access (CDMA) base station and said second received spread spectrum signal is a sync signal transmitted by a code division multiple access (CDMA) base station.

7. The communication device of claim 6 wherein said first receiver circuit comprises a power measurement circuit for generating a total received power signal in response to said measured total received signal power, said second receiver circuit comprises at least one demodulation element for despreads said pilot signal and for generating a CDMA energy ratio signal in response to said measured ratio of signal energy, and said processor generates a path loss signal in response to said total received power signal, said CDMA energy ratio signal, and said transmitted power level signal.

8. The communication device of claim 7 further comprising a transmitter coupled to said processor, said transmitter having a variable gain and adjusting said variable gain in response to said path loss signal.

9. The communication device of claim 8 further comprising a display coupled to said processor for generating a quality indication in response to said path loss signal.

10. A method for determining the power of a first received spread-spectrum signal having a predetermined bandwidth in a code division multiple access communication device, comprising the steps of:

measuring total received signal power in said predetermined bandwidth;

measuring a ratio of signal energy of said first received spread-spectrum signal to a total received power spectral density in said predetermined bandwidth; and

calculating power of said first received spread-spectrum signal in response to said measured total received signal power and said measured ratio of signal power.

11. The method of claim 10 wherein said first received spread spectrum signal is a pilot signal transmitted by a code division multiple access (CDMA) base station.

12. The method of claim 11 further comprising the steps of:

generating a total received power signal in response to said measured total received signal power;

despreading said pilot signal;

generating a CDMA energy ratio signal in response to said measured ratio of signal energy; and

generating a CDMA pilot power signal in response to said total received power signal and said CDMA energy ratio signal.

13. The method of claim 12 further comprising the step of generating a quality indication in response to said CDMA pilot power signal.

14. A method for estimating the reverse link path loss in a code division multiple access communication device which receives first and second spread spectrum signals having a predetermined bandwidth, the method comprising the steps of:

measuring total received signal power in said predetermined bandwidth;

measuring a ratio of signal energy of said first received spread-spectrum signal to a total received power spectral density in said predetermined bandwidth;

calculating power of said first received spread-spectrum signal in response to said measured total received signal power and said measured ratio of signal power;

extracting a transmitted power level signal from said second received spread spectrum signal; and

calculating a reverse link path loss in response to said calculated power of said first received spread-spectrum signal and said extracted transmitted power level signal.

15. The method of claim 14 wherein said first received spread spectrum signal is a pilot signal transmitted by a code division multiple access (CDMA) base station and said second received spread spectrum signal is a sync signal transmitted by a code division multiple access (CDMA) base station.

16. The method of claim 15 further comprising the steps of:

generating a total received power signal in response to said measured total received signal power;

despreading said pilot signal;

generating a CDMA energy ratio signal in response to said measured ratio of signal energy; and

generating a path loss signal in response to said total received power signal, said CDMA energy ratio signal, and said transmitted power level signal.

17. The method of claim 16 further comprising the step of adjusting a transmission level in response to said path loss signal.

18. The method of claim 17 further comprising generating a quality indication in response to said path loss signal.

19. A communication system comprising:

a first transmitter for transmitting a first spread spectrum signal having a predetermined bandwidth; and